Claims

We claim as deserving the protection of Letters Patent:

1. A universal, ultra-high definition color, light, and object rendering, advising, and coordinating system for displaying colors, objects, and light and enabling an accurate rendering of a color, room, building, object, landscape, or person, the system comprising:

an image procuring device for procuring input images;

a memory device;

a processor; and

a display device;

wherein the image procuring device, the memory device, the processor, and the display device are calibrated and coordinated to ensure that a color viewed and procured in situ by the image procuring device will be identically displayed on the display device;

whereby a user can predict the appearance of an interior or exterior of a building, home, landscape, person, or other object or element with accuracy.

2. The system of claim 1 wherein the image procuring device comprises a digital camera.

3. The system of claim 2 wherein the image procuring device comprises a still camera for providing still images of a color, room, building, landscape, product, person, or other structure.

4. The system of claim 2 wherein the image procuring device comprises a motion camera for providing moving images of a color, room, building, landscape, product, person, or other element or structure.

5. The system of claim 4 wherein the motion camera comprises a means for

providing moving images in three-dimensions.

6. The system of claim 5 further comprising a means for providing moving images in virtual reality.

7. The system of claim 1 wherein the display device comprises an ultra-high definition display screen.

8. The system of claim 1 wherein the memory device retains a plurality of reference images.

9. The system of claim 8 wherein the reference images include reference colors.

10. The system of claim 8 wherein the reference images include structural elements, auto parts, makeup, body elements, hairstyles, flooring, ceiling elements, wardrobe elements, and jewelry elements.

11. The system of claim 10 wherein the reference images include decorative elements.

12. The system of claim 11 wherein the decorative elements include furniture, shrubbery, wallpaper, rugs, curtains, blinds, window shades, and trim.

13. The system of claim 8 further comprising a means for suggesting one or more reference images based on a user-selected parameter wherein the reference image is automatically coordinated by the processor with the user-selected parameter.

14. The system of claim 13 wherein the user-selected parameter comprises an input image that has been procured by the image procuring device.

15. The system of claim 13 wherein the user-selected parameter comprises a design goal input by a user.

16. The system of claim 15 wherein the design goal input by a user includes desired furniture styles and decorating styles.

17. The system of claim 15 wherein the design goal input by a user includes a desired mood effect.

18. The system of claim 14 further comprising a means for displaying displayed elements and objects in a unified scale.

19. The system of claim 18 wherein the means for displaying displayed elements and objects in a unified scale automatically adapts the input images and the reference images to a unified, substantially identical scale.

20. The system of claim 13 further comprising a means for providing a cost estimation regarding a potential alteration, addition, or construction of or to a given element or object.

21. The system of claim 13 further comprising a means for providing a time estimation regarding a potential alteration, addition, or construction of or to a given element or object.

22. The system of claim 21 further comprising a means for providing a cost estimation regarding a potential alteration, addition, or construction of or to a given element or object.

23. The system of claim 1 wherein the image procuring device comprises a motion camera for providing moving images of color, room, building, landscape, product, person, or other element or structure and further comprising a means for enabling a selective manipulation of the location and orientation of the procured image on the display device.

24. The system of claim 23 further comprising a means for displaying displayed elements and objects in a unified scale.

25. The system of claim 24 wherein the means for displaying displayed elements and objects in a unified scale automatically adapts the input images and the reference images to a unified, substantially identical scale.

26. The system of claim 1 further comprising a means for providing simulated light sources on the display device to bathe the displayed image in a source of light.

27. The system of claim 26 wherein the means for providing simulated light sources comprises a means for controlling a type of light source to be simulated on the display device.

28. The system of claim 27 wherein the means for providing simulated light sources enables a user to select from light source types from the group consisting of incandescent light, fluorescent light, full spectrum light, and natural sunlight.

29. The system of claim 2 wherein the means for providing simulated light sources further enables a user to select a mixed light display situation.

30. The system of claim 29 wherein the means for providing simulated light sources further enables a user to adjust the relative intensity of displayed light sources.

31. The system of claim 26 wherein the means for providing simulated light sources comprises a means for controlling a location and orientation of the light source to be simulated on the display device.

32. The system of claim 31 wherein the means for providing simulated light sources further comprises a means for controlling a type of light source to be simulated on the display device.

33. The system of claim 32 wherein the means for providing simulated light sources enables a user to select from light source types from the group consisting of incandescent light, fluorescent light, full spectrum light, and natural sunlight.

34. The system of claim 34 wherein the means for providing simulated light sources further enables a user to select a mixed light display situation.

35. The system of claim 34 wherein the means for providing simulated light sources further enables a user to adjust the relative intensity of displayed light sources.

36. The system of claim 33 wherein the means for providing simulated light sources further enables a user to choose to display light as emanating from a light fixture.

37. The system of claim 33 wherein the means for providing simulated light sources further enables a user to choose to display light as emanating from within a shielded structure.

38. The system of claim 1 further comprising a portable memory medium for enabling a user to retain and transport procured input images and reference images.

39. The system of claim 1 further comprising a means for sequentially displaying a plurality of display images and for allowing a user to select preferred display images from the plurality of display images for continued or repeated display.

40. The system of claim 39 wherein the means for sequentially displaying a plurality of display images displays each display image for a predetermined amount of display time through a first display round and then for progressively increased amounts of display time through succeeding rounds.

41. A system for rendering, coordinating, and advising regarding colors, light sources and types, and objects, the system comprising:

an image procuring device for procuring input images;

a memory device;

a processor; and

a display device;

a plurality of reference images retained by the memory device;

a means for providing a suggestion of one or more reference images based on a user-selected parameter wherein each reference image is automatically coordinated by the processor with the user-selected parameter;

wherein the image procuring device, the memory device, the processor, and the

display device are calibrated and coordinated to ensure that a color viewed and procured in situ by the image procuring device will be identically displayed on the display device;

whereby a user can predict the appearance of an interior or exterior of a building, home, landscape, person, or other object or element with accuracy.

42. The system of claim 41 further comprising a means for providing a cost estimation regarding a potential alteration, addition, or construction of or to a given element or object.

43. The system of claim 41 further comprising a means for providing a time estimation regarding a potential alteration, addition, or construction of or to a given element or object.

44. The system of claim 43 further comprising a means for providing a cost estimation regarding a potential alteration, addition, or construction of or to a given element or object.

45. The system of claim 41 wherein the reference images include reference colors, structural elements, and decorative elements.

46. The system of claim 41 further comprising a means for suggesting one or more reference images based on a user-selected parameter wherein the reference image is automatically coordinated by the processor with the user-selected parameter.

47. The system of claim 46 wherein the user-selected parameter comprises an input image that has been procured by the image procuring device.

48. The system of claim 46 wherein the user-selected parameter comprises a design goal input by a user.

49. The system of claim 41 further comprising a means for displaying displayed elements and objects in a unified scale.

50. The system of claim 49 wherein the means for displaying displayed elements and objects in a unified scale automatically adapts the input images and the reference images to a unified, substantially identical scale.

51. The system of claim 41 further comprising a means for enabling a selective manipulation of the location and orientation of input images and reference images on the display device and a means for automatically adapting input images and reference images to a unified, substantially identical scale.

52. The system of claim 41 further comprising a means for providing simulated light sources on the display device to bathe the displayed image in a source of light wherein the means for providing simulated light sources comprises a means for controlling a type of light source to be simulated on the display device.

53. The system of claim 52 wherein the means for providing simulated light sources further comprises a means for controlling a location and orientation of the light source to be simulated on the display device and for enabling a user to select a mixed light display situation and to adjust the relative intensity of displayed light sources.

54. The system of claim 41 further comprising a portable memory medium for enabling a user to retain and transport procured input images and reference images.

55. The system of claim 41 further comprising a means for sequentially displaying a plurality of display images and for allowing a user to select preferred display images from the plurality of display images for continued or repeated display.

56. The system of claim 55 wherein the means for sequentially displaying a plurality of display images displays each display image for a predetermined amount of display time through a first display round and then for progressively increased amounts of display time through succeeding rounds.

57. A method for rendering, coordinating, and advising regarding colors, light sources, and objects, the method comprising the steps of:

providing a memory device that retains a plurality of reference images, a processor, and a display device wherein the image procuring device, the memory device, the processor, and the display device are calibrated and coordinated to ensure that a color viewed and procured in situ by the image procuring device will be identically displayed on the display device;

programming the memory device and the processor with a plurality of potential design suggestions from the plurality of reference images;

inputting a user-selected parameter;

providing a user with a suggestion of one or more reference images based on the user-selected parameter wherein each reference image is automatically coordinated with the user-selected parameter;

displaying each reference image in coordination with the user-selected parameter;

whereby a user can predict the appearance of an interior or exterior of a building, home, landscape, person, or other object or element with accuracy and in light of the design suggestions.

58. The method of claim 57 further comprising the step of providing an image procuring device for procuring input images and wherein the user-selected parameter is chosen from the group consisting of an input image, a design goal, and a reference image.

59. The method of claim 57 further comprising the step of programming the memory device and the processor with a means for providing a cost estimation regarding the cost of a potential alteration, addition, or construction of or to a given element or object and further comprising the step of providing a cost estimation to a user.

60. The method of claim 59 further comprising the step of programming the memory device and the processor with a means for providing a time estimation regarding the time for carrying out a potential alteration, addition, or construction of or to a given element or object and further comprising the step of providing a time estimation to a user.

61. The method of claim 60 further comprising the step of programming the memory device and the processor with a means for providing a cost estimation regarding the cost of a potential alteration, addition, or construction of or to a given element or object and further comprising the step of providing a cost estimation to a user.

62. The method of claim 57 further comprising the step of providing a means for automatically displaying displayed elements and objects in a unified scale and further comprising the step of adapting the input images and the reference images to a unified scale.

63. The method of claim 57 further comprising the step of providing a means for enabling a selective manipulation of the location and orientation of procured images and

reference images on the display device and a means for automatically adapting input images and reference images to a unified, substantially identical scale.

64. The method of claim 57 further comprising the step of providing a means for providing simulated light sources on the display device to bathe the displayed image in a source of light wherein the means for providing simulated light sources comprises a means for controlling a type of light source to be simulated on the display device.

65. The system of claim 64 wherein the means for providing simulated light sources further comprises a means for controlling a location and orientation of the light source to be simulated on the display device and for enabling a user to select a mixed light display situation and to adjust the relative intensity of displayed light sources.

66. The method of claim 57 further comprising the step of providing a portable memory medium for enabling a user to retain and transport procured input images and reference images.

67. The method of claim 57 further comprising the step of providing a means for sequentially displaying a plurality of display images and for allowing a user to select preferred display images from the plurality of display images for continued or repeated display.

68. The method of claim 67 wherein the step of providing a means for sequentially displaying a plurality of display images and for allowing a user to select preferred display images from the plurality of display images for continued or repeated display comprises providing a means for sequentially displaying a plurality of display images that displays each display image for a predetermined amount of display time through a first display

round and then displays each display image for progressively increased amounts of display time through succeeding rounds.